Antimicrobial Resistance of Enterococci Isolated from Outpatient Stools in the United States, 1998-2001

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Background: Antimicrobial resistance complicates the treatment of Enterococcus *fa*ecalis and *E. faecium* infections in humans; many of these infections are invasive and may be life-threatening. Recent studies have demonstrated frequent isolation of antimicrobial-resistant *enterococci* from meat and poultry in grocery stores. We, therefore, sought to determine whether persons in the community might carry antimicrobial-resistant enterococci.

Methods: Stool specimens were collected from outpatients with diarrhea in Georgia, Maryland, Minnesota, and Oregon from 1998 to 2001 and cultured on Gram-positive selective media (CNA agar). One *enterococcus* per specimen was forwarded to CDC for species identification and susceptibility testing with NCCLS interpretive breakpoints using broth microdilution (Sensititre)for vancomycin, penicillin, gentamicin, chloramphenicol, erythromycin, and quinupristin/dalfopristin (*E. faecium* only); selected *E. faecium* isolates were susceptibility tested by E-test for imipenem and ampicillin. Resistance to bacitracin, imipenem, and high-level gentamicin (HLGR) were defined as MIC >4, >8, and >500 g/ml, respectively.

Results: Enterococci were isolated from 1657 (79%) of 2084 stool specimens. Of the 986 speciated isolates, 581 (59%) were *E. faecalis* and 303 (31%) were *E. faecium*. All isolates were resistant to bacitracin. None of the 435 E. faecalis isolates tested were resistant to vancomycin, 1 was resistant to penicillin, 15 (3%) were HLGR, 27 (6%) were resistant to chloramphenicol, and 378 (87%) were resistant to erythromycin. Among the 193 *E. faecium* isolates tested, 14 (7%) were resistant to penicillin, 7 (4%) were HLGR, 5 (3%) were resistant to quinupristin/dalfopristin, and 2 (1%) were resistant to vancomycin. Of a subset of 58 *E. faecium* isolates tested, 12 (21%) were resistant to imipenem; none were resistant to ampicillin.

Conclusion: Antimicrobial resistant enterococci were found in human stools collected from outpatients with diarrhea, demonstrating a community reservoir for such resistance. Further studies are needed to examine the source and clinical significance of this resistance.

Suggested citation:

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